

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions and listing of claims in this application.

Listing of Claims:

Claims 1-57 (Canceled)

- 58) (Previously Presented) An apparatus to traverse a seabed topographic feature, comprising:
a subsea pipeline constructed to carry fluids from a first location across the topographic feature to a second location; wherein:
the topographic feature is selected from the group consisting of subsea basins, domes, valleys, cliffs, canyons, escarpments and combinations thereof;
said pipeline comprising at least one distributed buoyancy region;
said pipeline comprising a first unbuoyed pipeline section extending from said first location on a sea floor to said distributed buoyancy region and a second unbuoyed pipeline section extending from said distributed buoyancy region to said second location on a sea floor; and
said distributed buoyancy region comprising two or more spatially arranged discrete buoyancy solutions directly attached to said distributed buoyancy region to create a positively buoyant inverse catenary section connecting said first and said second pipeline sections in fluid communication; and
a first flexure control device at said first location to reduce bending stress and strain in said first unbuoyed pipeline section.
- 59) (Previously Presented) The apparatus of claim 58 wherein the buoyancy solution comprises one or more buoyancy-providing modules disposed along a length of said pipeline.

- 60) (Previously Presented) The apparatus of claim 58 wherein the buoyancy solution comprises a continuous coating of buoyant material.
- 61) (Previously Presented) The apparatus of claim 58 further comprising a tether system to retain said pipeline in position and to resist forces of undersea currents.
- 62) (Previously Presented) The apparatus of claim 58 wherein said first and said second pipeline sections are negatively buoyant.
- 63) (Canceled)
- 64) (Previously Presented) The apparatus of claim 58 wherein said first flexure control device is located proximate to a cliff edge of the topographic feature.
- 65) (Previously Presented) The apparatus of claim 58 wherein said first flexure control device is located distant to a cliff edge of the topographic feature.
- 66) (Currently Amended) A pipeline for traversing a topographic feature, comprising:
a first unbuoyed section located subsea and extending from a first location on the seabed;
a second unbuoyed section located subsea and extending from a second location on the seabed; and
at least one positively buoyant inverse catenary buoyancy section disposed between the first and second unbuoyed sections, wherein the buoyancy positively buoyant inverse catenary section comprising comprises two or more spatially arranged buoyancy solutions directly attached to an outer diameter thereof, wherein the first and second unbuoyed sections are in fluid communication with one another via the buoyancy positively buoyant inverse catenary section, [[and]] wherein the at least one buoyancy positively buoyant inverse catenary section traverses the topographic feature, and wherein the topographic feature is selected from the group consisting of subsea basins, domes, valleys, cliffs, canyons, escarpments, and combinations thereof.

- 67) (Previously Presented) The pipeline of claim 66, wherein each buoyancy solution comprises one or more discrete buoyancy-providing modules.
- 68) (Previously Presented) The pipeline of claim 67, wherein the buoyancy-providing module is a buoy.
- 69) (Previously Presented) The pipeline of claim 67, wherein the buoyancy-providing module is a tethered buoy.
- 70) (Previously Presented) The pipeline of claim 66, wherein each buoyancy solution is a buoyant coating.
- 71) (Currently Amended) The pipeline of claim 66, wherein the first and second locations are located on opposing sides of the topographic feature on the seabed, ~~wherein the topographic feature comprises one or more subsea basins, domes, valleys, cliffs, canyons, escarpments, or combinations thereof.~~
- 72) (Previously Presented) The pipeline of claim 67, wherein the discrete buoyancy-providing module is a buoyant coating, buoy, or combination thereof.